

Multi-Functional Riparian Buffers

What?

A riparian forest buffer is usually defined as an area of predominantly trees and/or shrubs located adjacent to and up-gradient from water courses or water bodies.

Where?

It is located on areas adjacent to permanent or intermittent streams and wetlands and areas with ground water recharge that are capable of supporting woody vegetation.

Why?

- Reduce excess amounts of sediment, organic material, nutrients and pesticides in surface runoff and reduce excess nutrients and other chemicals in shallow ground water flow
- Provide floodplain protection
- Provide a harvestable crop of timber, fiber, forage, fruit, or other crops consistent with other intended purposes
- Create wildlife habitat and establish wildlife corridors
- Create shade to lower water temperatures to improve habitat for cold water aquatic organisms
- Provide a source of detritus and large woody debris for aquatic and terrestrial organisms
- Restore natural riparian plant communities



CLEANER WATER

Riparian Buffer Process

Planning Stage

- Discuss intentions and objectives with family and/or applicable land lessees
- Determine objective of buffer area (i.e. pollinator habitat, timber production, wildlife habitat, aesthetics, fruit and/or nut production)
- Request assistance from a natural resource professional (TDF Forester, NRCS District Conservationist, TWRA Private Lands Biologist)
- Complete all required paperwork including the prescription plan which clearly describes the objective of the landowner and thus the design of the buffer, site preparation recommendations, installation/planting guidelines, and buffer maintenance recommendations
- Pre-order all planting stock and tree shelters as soon as you can to ensure desired species and quantities
- Interview and secure contractors for site preparation and installation/planting

Site Preparation

- Eliminate/control undesirable species ahead of installation/planting date (usually the fall prior if planting in spring)
- Ensure proper herbicides and amounts/rates are implemented according to the prepared prescription plan
- Monitor effectiveness of herbicide treatment

Buffer Installation/Planting

- Ensure planting stock are kept shaded and moist
- Ensure proposed buffer area is marked well with flagging or wire stakes
- Follow buffer design planting instructions regarding spacing within row and between rows in addition to species locations
- Document with photos prior to and post planting
- Ensure tree shelters are installed properly if recommended by natural resource professional

Buffer Maintenance

- Weed Control
 - Herbicides – follow herbicide maintenance recommendations in prescription plan
 - Mowing – follow mowing maintenance recommendations in prescription plan ensuring planting stock are not damaged by mower or trimmer; frequent or infrequent
- Mulch may also be recommended to be used to increase soil moisture around planting stock and to assist with weed control
- Monitor for mortality and other health concerns (i.e. detrimental insects, exotic invasive species)

Outcomes/Results

- Observe an Indigo bunting, harvest some pawpaws and elderberries, harvest a trophy buck, harvest some locust honey, help pay for a grandchild's education by planting a stand of hardwood, enjoy a walk with a loved one, and drink cleaner water, etc.

Miscellaneous Information

Table 1. Acreage of Buffer Area / Incentive Payment		Length of creek/stream/river frontage measured in feet				
		100	250	500	750	1000
Desired Riparian Buffer Width	50	0.11 / \$195.13	0.29 / \$487.83	0.57 / \$975.67	0.86 / \$1,463.50	1.15 / \$1,951.33
	75	0.17 / \$292.70	0.43 / \$731.75	0.86 / \$1,463.50	1.29 / \$2,195.25	1.72 / \$2,927.00
	100	0.23 / \$390.27	0.57 / \$975.67	1.15 / \$1,951.33	1.72 / 2,927.00	2.30 / \$3,902.66
	125	0.29 / \$487.83	0.72 / \$1,219.58	1.43 / \$2,439.16	2.15 / \$3,658.75	2.87 / \$4,878.33
	150	0.34 / \$585.40	0.86 / \$1,463.50	1.72 / \$2,927.00	2.58 / \$4,390.50	3.44 / \$5,853.99
	180	0.41 / \$702.48	1.03 / \$1,756.20	2.07 / \$3,512.40	3.10 / \$5,268.60	4.13 / \$7,024.79

*Incentive payment value based on \$1700/acre agreement

Southern Middle TN Tree Pollinator Calendar

<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>
Redbud	Dogwood	Black Locust	Basswood	Sourwood
Serviceberry	Yellow-Poplar	Persimmon	Sourwood	Devils Walkingstick
Plum Spp.	Red Buckeye	N. Catalpa	Sumac Spp.	Sumac Spp.
Crabapple	Yellowwood	Rusty Blackhaw	Carolina Buckthorn	
Red Maple	American Holly	Hawthorn		
Black Cherry	Pawpaw	Yellow-Poplar		
Blackgum	Black Locust	Chokeberry Spp.		

Recommended Native Fruit/Nut Cultivars

<u>Pawpaw</u>	<u>Persimmon</u>	<u>Elderberry</u>	<u>Pecan</u>	<u>Black Walnut</u>
Susquehanna	Early Golden	Adams	Colby (g)	Emma Kay (g)
Shenandoah	Yates	Adams 2	Kanza (g)	Quick Crop (g)
Wabash	Ruby	Bob Gordon	Lakota (g)	Sauber (d)
Potomac	Meader	Ranch	Oswego (g)	Sparrow (g)
Allegheny	Weber	Wyldeewood	Pawnee (d)	Thomas Black (g)
Rappahannock	Tatum	York	Peruque (d)	(d) Protandrous
Tallahatchie	Pipher		(d) Protandrous	(g) Protogynous
KSU Atwood	Prok		(g) Protogynous	
KSU Chappell	Celebrity			
KSU Benson	Lehman's Delight			
Sunflower	Early Jewel			
Overleese	Deer Candy			

Sources for Cultivars/Planting Stock

TN Division of Forestry Nursery

<https://www.tn.gov/agriculture/forests/seedlings.html>

England's Orchard and Nursery

<http://www.nuttrees.net/>

Hidden Springs Nursery

<http://www.hiddenspringsnursery.com/>

Rock Bridge Trees

<https://rockbridgetrees.com/>

Peaceful Heritage Nursery

<https://peacefulheritage.com/>

GroWild Inc.

<http://www.growildinc.com/>

Nolin River Nut Tree Nursery

<http://nolinnursery.com/>

Overhill Gardens Nursery

<http://www.overhillgardens.com/index.html>

Forrest Keeling Nursery

<https://www.fknursery.com/>